CHANNEL EXTENDER UNIT (CEU), 628460 AND 628462

GENERAL DESCRIPTION

CONTENTS PAGE

1. GENERAL 1
2. DESCRIPTION 1
3. FUNCTIONAL OPERATION 2
CEU, 628460 (FIG. 3) 2
CEU, 628462 (FIG. 4) 2
4. OPTIONS 2
5. TEST AND MAINTENANCE FEATURES 2
6. TECHNICAL SUMMARY 5
7. REPLACEABLE PARTS 5
8. REFERENCES 5

1. GENERAL

1.01 This Section provides a general description of the ITT channel extender unit (CEU), 628460 (Fig. 1) and 628462 (Fig. 2), to the simplified schematic diagram level.

1.02 Whenever this Section is reissued, the reasons for reissue will be listed in this paragraph.

1.03 The units extend a channel unit beyond the face of a D448 multiplex shelf to facilitate trouble-shooting and test signal injection.

2. DESCRIPTION

2.01 The unit mounts in the D448 multiplex shelf (channel unit mounting section). Installation consists of plugging the CEU in the appropriate multiplex shelf connector and inserting the channel unit to be tested into the extender.

2.02 Each unit is available in Group -0 only.

2.03 Each unit consists of an epoxy-glass printed circuit board (PCB), channel unit guides, edge connector, and a sheet metal closure which provides mounting space for front panel test jacks and splitting card jacks. Two epoxy-glass boards are riveted to the PCB to provide mechanical support. Standard wiring is used for connections between the PCB and test jacks. The front panel jacks will accept standard 310-type plugs. An identification strip on the units indicate the unit mnemonic (CEU), part number, and issue letter.

2.04 On CEU, 628460, bantam jacks LN T/R, EQ T/R, MON, LN E/M, EQ E/M, LN T1/R1, and EQ

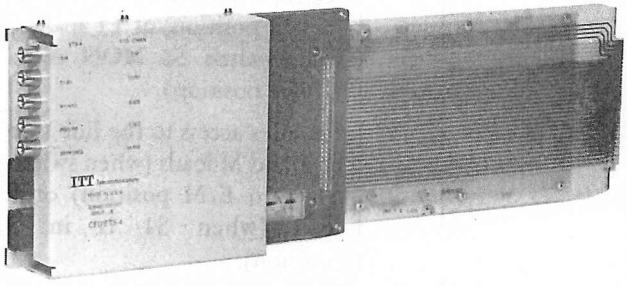

Fig. 1—CEU, 628460

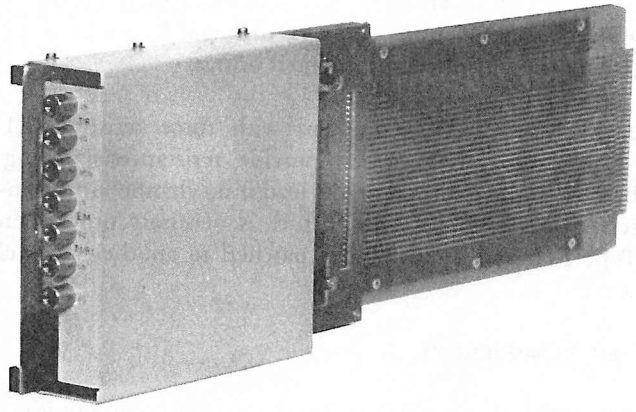

Fig. 2—CEU, 628462

T1/R1 (J1 through J7); splitting card jack (J8); two slide switches (S1 and S2 MON) are located on the front edge of the unit.

2.05 On CEU, 628462, bantam jacks T/R; T1/R1, RT/RTO, PB/PBG, and SMR/SMG (J1 through J5) and splitting card jacks (J6 and J7) are located on the front edge of the unit.

2.06 Printed circuit wiring is etched on both sides of the PCB. Unit inputs and outputs are terminated in gold-plated contacts on the rear edge of the PCB. These contacts mate with a 60-pin contact edge connector on the rear of the multiplex shelf.

3. FUNCTIONAL OPERATION

CEU, 628460 (FIG. 3)

3.01 When inserted into a shelf and a channel unit is inserted into the extender, bantam jack access and splitting card jack access are provided for VF and signaling leads of the channel unit. With a channel unit inserted in the extender, access is provided to the T/R, E/M, and T1/R1 leads on the equipment and line sides of the channel unit.

3.02 When switch S1 is changed from the E/M to the S position, access is provided for the S lead rather than the E lead. MON jack J3 is used to monitor the T/R or T1/R1 leads. Switch S2 MON selects which leads are monitored.

3.03 When patching a channel unit out of service, splitting card jack J8 is used for patching over to another channel unit. Jacks J1 through J7 are used for testing the out-of-service channel unit.

3.04 The CEU is equipped with three resistors (R1 through R3) which provide resistance signaling battery to the equipment MB lead if no channel unit is inserted in the CEU. This feature is necessary only when Type II E and M trunks are patched to another channel unit.

CEU, 628462 (FIG. 4)

3.05 When inserted into a shelf and a channel unit is inserted in the extender, bantam jack access and splitting card jack access are provided for the VF and signaling leads of the channel unit. With an ETS-4 channel unit, 628255, inserted in the extender, access is provided to the T/R, T1/R1, RT/RTO, PB/PBG, and SMR/SMG leads. With a standard channel unit inserted in the extender, access is provided to the T/R, T1/R1, E/EB, S/1/2, and M/MB leads.

3.06 When patching a channel unit out of service, splitting card jacks J6 and J7 are to be used for patching over to another channel unit. Jacks J1 through J5 are used for testing the out-of-service channel unit.

4. OPTIONS

4.01 CEU, 628460, has two switch options, S1 and S2 MON, which perform the functions described in Table A. CEU, 628462, has two options, [A] and [B], which enable the customer to condition the unit for applications with other channel units.

5. TEST AND MAINTENANCE FEATURES

5.01 A description of the test and maintenance features of the unit is provided in Tables A and B. Refer to Fig. 1 and 2 for the physical location of these features.

TABLE A

CEU, 628460, TEST AND MAINTENANCE FEATURES

FEATURE	REF. DES.	FUNCTION
LN T/R Jack	J1	Provides access to line side of T and R leads.
EQ T/R Jack	J2	Provides access to equipment side of T and R leads.
MON Jack	J3	Provides access to T and R leads (when switch S2 MON is in T/R position) or T1 and R1 leads (when S2 MON is in T1/R1 position).
LN E/M Jack	J4	Provides access to the line side of E and M leads (when switch S1 is in E/M position) or S lead (when S1 is in S position).
EQ E/M Jack	J5	Provides access to equipment side of E and M leads (when switch S1 is in E/M position) or S lead (when S1 is in S position).

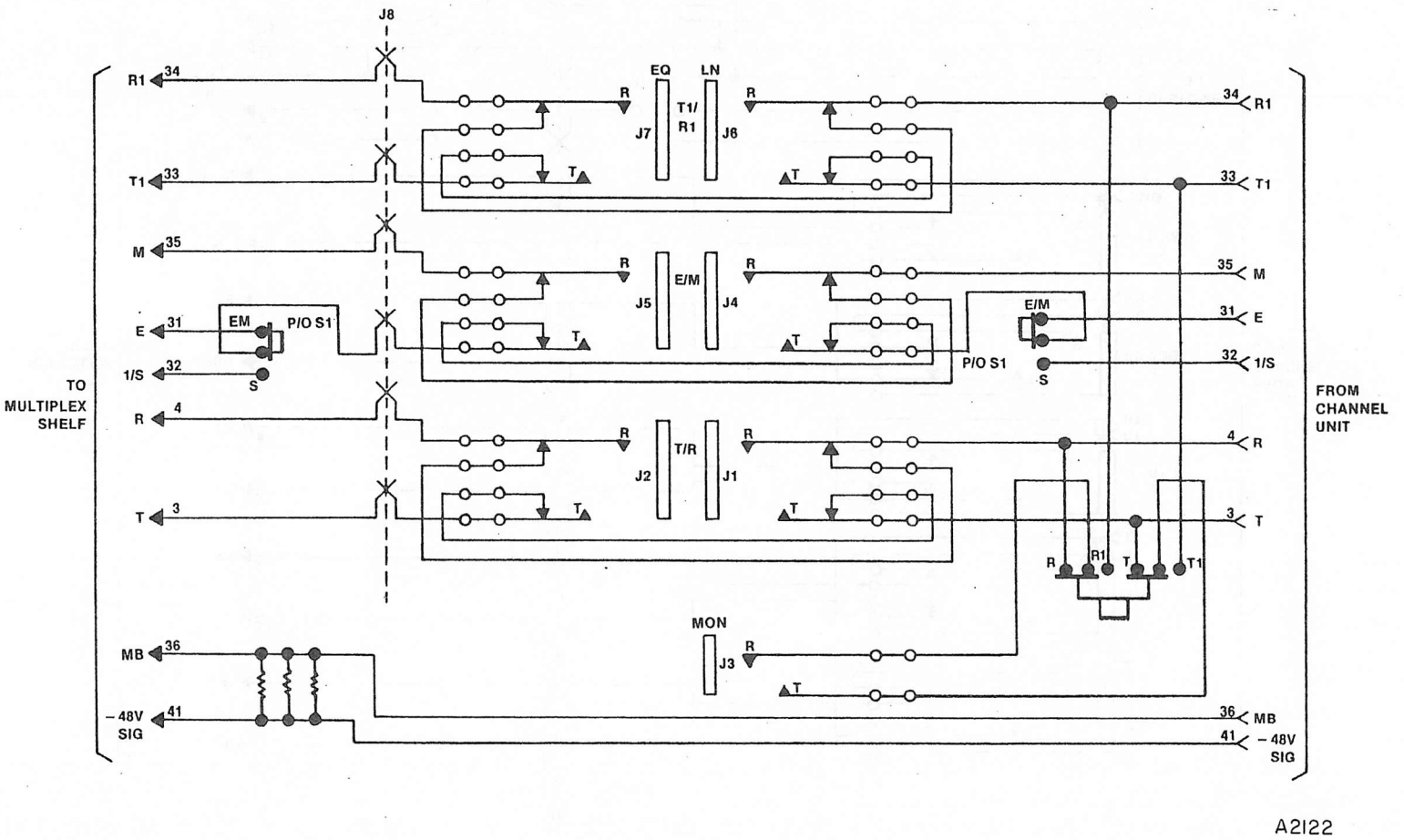

Fig. 3—CEU, 628460, Simplified Schematic Diagram

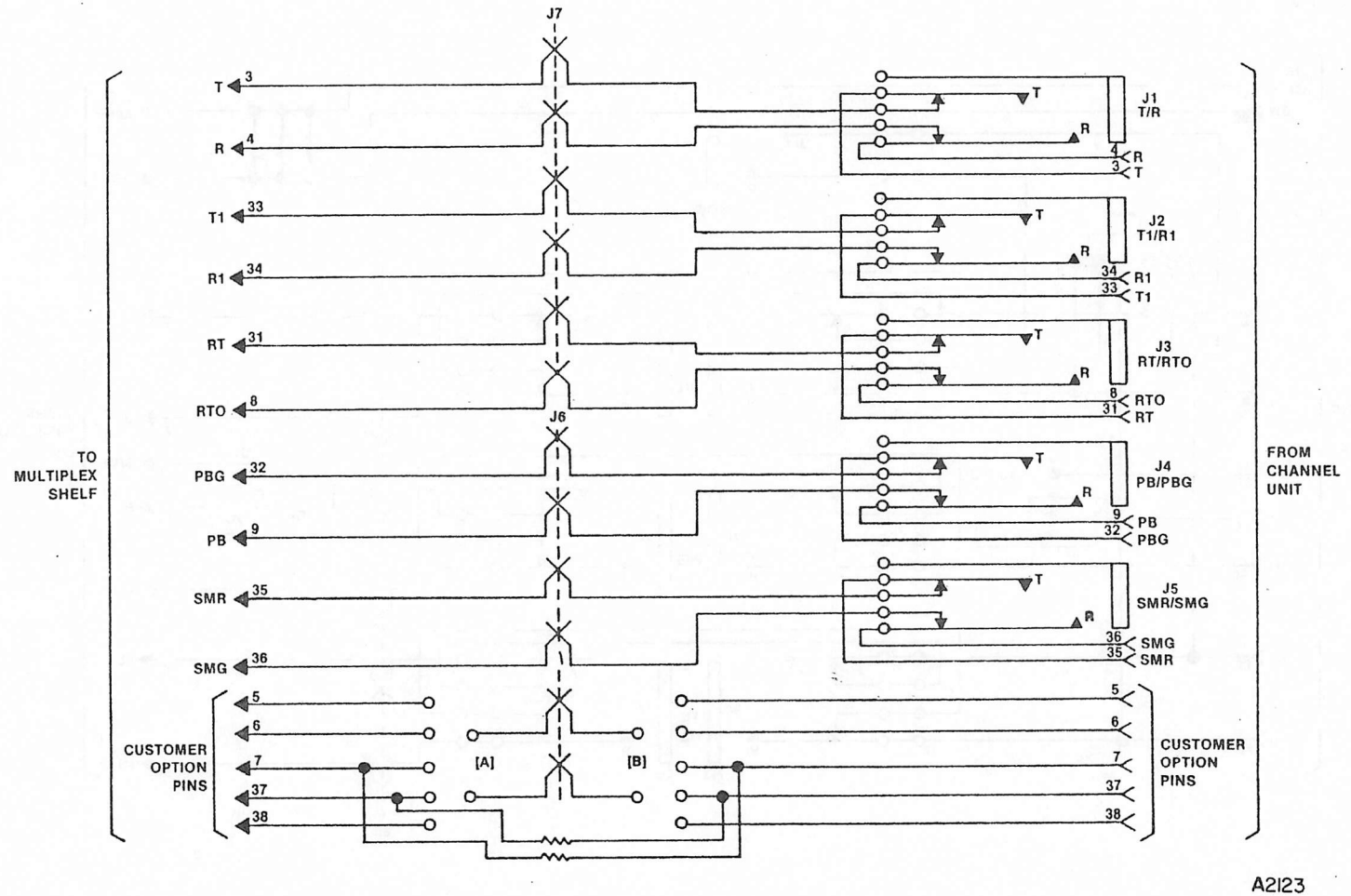

Fig. 4—CEU, 628462, Simplified Schematic Diagram

TABLE A (CONT)

FEATURE	REF. DES.	FUNCTION
LN T1/R1 Jack	J6	Provides access to line side of T1 and R1 leads.
EQ T1/R1 Jack	J7	Provides access to equipment side of T1 and R1 leads.
Splitting Card Jack	J8	Provides access to the same points as channel unit splitting card jack.
E/M-S Slide Switch	S1	Changes E and M lead access to S lead access.
T/R-T1/R1 Slide Switch	S2 MON	Changes leads being monitored from T and R to T1 and R1.

TABLE B

CEU, 628462, TEST AND MAINTENANCE FEATURES

FEATURE	REF. DES.	FUNCTION
T/R Jack	J1	Provides access to ETS-4 channel unit T and R leads.
T1/R1 Jack	J2	Provides access to channel unit T1 and R1 leads.
RT/RTO Jack	J3	Provides access to ETS-4 channel unit RT and RTO leads. With a standard channel unit inserted in the extender, provides access to the E and EB leads.
PB/PBG Jack	J4	Provides access to ETS-4 channel unit PB and PBG leads. With a standard channel unit inserted in the extender, provides access to the S/1/2 leads.
SMR/SMG Jack	J5	Provides access to ETS-4 channel unit SMR and SMG leads. With a standard channel unit inserted in the extender, provides access to the M and MB leads.
Splitting Card Jack	J6, J7	Provide access to the same points as channel unit splitting card jack.

6. TECHNICAL SUMMARY

6.01 A summary of technical specifications for the unit is given in Table C.

TABLE C

TECHNICAL SUMMARY

ITEM	SPECIFICATION
OPERATING ENVIRONMENT	
Temperature	0° to 55°C
Humidity	To 95% at 40°C (no condensation)
Altitude	To 14,000 ft (4,300 m)
DIMENSIONS	
Width	1.5 in. (4.1 cm)
Height	5.9 in. (15.0 cm)
Depth	15.8 in. (40.2 cm)
WEIGHT	1.0 lb (0.5 kg)

7. REPLACEABLE PARTS

7.01 These units have no field-replaceable parts.

8. REFERENCES

8.01 The engineering drawings noted in Table D were used in the preparation of this Section.

TABLE D

ENGINEERING DRAWINGS

TYPE	DRAWING NO.
Assembly	628460-000
Schematic	628460-002
Assembly	628462-000
Schematic	628462-002